Do Recognition, Behavioral Intentions, and Attitudes of Adolescent Relationship Abuse (ARA) Serve as Protective Factors Against Future ARA and Cyber Dating Abuse (CDA)?

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OBJECTIVES/SPECIFIC AIMS: To create prevention strategies targeting ARA and CDA, it is critical to educate and mold adolescent recognition, behavioral intentions, and attitudes regarding healthy dating relationships. Thus, the purpose of this study was to examine if high school students' recognition of ARA, the students' behavioral intentional to intervene during ARA episode of someone they know, and the students' attitudes about the importance of healthy relationship serve as a protective factors against experiencing ARA. Aim 1: Do baseline (T1) recognition, behavioral intentions, and attitudes serve as protective factors against experiencing ARA in high school students at 3-month follow-up (T2)? Aim 2: Do baseline (T1) recognition, behavioral intentions, and attitudes serve as protective factors against CDA in high school students at 3-month follow- up (T2)? METHODS/STUDY POPULATION: To examine the relationships between recognition, behavioral intentions, and attitudes of ARA and CDA, a secondary analysis using a descriptive correlational design was used to analyze electronic survey data from a large randomized controlled parent study. The parent study consisted of 1,011 high school students ages 14 to 19 years who sought health service through one of eight school-based health clinics in California. This secondary analysis consisted of 819 students, with 640 (78.1%) female, 178 (21.7%) males, and 1 (0.2%) transgender participant. There were 42 (5.1%) Caucasians, 141 (17.2%) Asians, 218 (26.7%) African Americans, 313 (38.2%) Hispanics, 42 (5.1%) American Indians/Alaskan Natives, and 63 (7.7%) students who responded multi-racial. To measure recognition of ARA, a 10-item, 5-point Likert scale was used with responses ranging from 1="not abusive" to 5="extremely abusive" (Cronbach's a = 0.85). To assess behavioral intentions to intervene, a 5-item, 5-point Likert scale was used to ask participants how likely they would be to stop the ARA behavior if they witness a peer perpetrating ARA with responses ranging from 1="very unlikely" to 5="very likely" (Cronbach's a = 0.89). A 6-item, 3-point Likert healthy relationship tool measured participants' attitudes regarding healthy relationship with responses ranging from 1="not important" to 3="very important". Both ARA and CDA were assessed using a "yes/no" response choice for the lastthree months. To account for the hierarchical nature of the data analysis, a binary logistic regression was used in SPSS 24. To take into account the clustering coefficients of the eight different school clinics and as well as the parent study's intervention and control groups, these clusters were examined as co-variates. Sex, race, and age were included as covariates, also. RESULTS/ANTICIPATED RESULTS: The relationship status of high school students consisted of 262 (32.0%) who were single, 97 (11.8%) who were going out, dating, or hooking up with more than one person, 423 (51.7%) who were seriously dating one person, and 37 (4.5%) who were not sure. At 3-month follow-up assessment, 111 (13.6%) of high school students experienced ARA, and 476 (58.1%) experienced CDA. The mean recognition of ARA score was 3.90 + 0.67, mean behavioral intentions score was 4.00 + 0.83, and mean attitudes score was 2.54 + 0.37. When examining the full ARA model including all three predicators controlling for the demographics and group assignment, none of the predictor variables were significant (p>0.05) in predicting ARA in high school students. Also, all three predictors were not significant in predicting ARA in the main effects model. When examining the full CDA model, with no interaction, all three predictors were significant. Recognition had 0.784 decrease odds (95% CI = 0633-0.971, p = 0.026) of predicting CDA. However the odds of CDA increase non-linearly up to the mean (2.537709) for the attitudes variable after which the odds then decreases non-linearly. The odds of CDA is increasing non-linearly up to 3.073913 for the behavioral intention variable after which the odds then decrease non-linearly. DISCUSSION/SIGNIFICANCE OF IMPACT: Adolescence is typically a time of exploration, transition, and social development. Researchers should investigate the efficacy of ARA and CDA prevention programs that focus on recognition, behavioral intentions, and attitudes to educate adolescents on healthy relationships. Results showed that behavioral intention to intervene and attitudes about healthy relationship can serve as protective factors against CDA. From our data, more students experienced CDA compared to ARA. Thus, it may by useful to recognize the use of technology as a social force within the adolescent culture in defining adolescents' experiences of healthy relationships and potential experience of CDA.

Machine Learning for Prediction of Pathologic Pneumatosis Intestinalis Using CT Scans

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OBJECTIVES/SPECIFIC AIMS: This retrospective study aims to create and train machine learning models using a radiomic-based feature extraction method for two classification tasks: benign vs. pathologic PI and operation of benefit vs. operation not needed. The long-term goal of our study is to build a computerized model that incorporates both radiomic features and critical non-imaging clinical factors to improve current surgical decision-making when managing PI patients. METHODS/STUDY POPULATION: Searched radiology reports from 2010-2012 via the UPMC MARS Database for reports containing the term "pneumatosis" (subsequently accounting for negations and age restrictions). Our inclusion criteria included: patient age 18 or older, clinical data available at time of CT diagnosis, and PI visualized on manual review of imaging. Cases with intra-abdominal free air were excluded. Collected CT imaging data and an additional 149 clinical data elements per patient for a total of 75 PI cases. Data collection of an additional 225 patients is ongoing. We trained models for two clinically-relevant prediction tasks. The first (referred to as prediction task 1) classifies between benign and pathologic PI. Benign PI is defined as either lack of intra-operative visualization of transmural intestinal necrosis or successful non-operative management until discharge. Pathologic PI is defined as either intraoperative visualization of transmural PI or withdrawal of care and subsequent death during hospitalization. The distribution of data samples for prediction task 1 is 47 benign cases and 38 pathologic cases. The second (referred to as prediction task 2) classifies between whether the patient benefitted from an operation or not. "Operation of benefit" is defined as patients with PI, be it transmural or simply mucosal, who benefited from an operation.